Double Stimulation and Transformative Agency through Video Modalities with Young Children –A cross-national study of pedagogic relationships in families

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Introduction

> No act of our psyche helps in disclosing the genuine determinacy and genuine absence of freedom as does the act of the struggle between motives (Sannino 2015, 167–168).

This methodological paper demonstrates how interpretations of double stimulation associated with a 'conflict of motives' and a principle of volition (Sannino 2015; Sannino & Laitinen 2015) deepen methodological understanding about the use of video in research. In the paper we reflect on two video modalities, extraction and reflection. The study 'Paternal Engagement in Home Learning Environments – the child's perspective' addressed the question 'How can we use video with young children to explicate how fathers engage in child development, from the child's perspective?' As researchers we were interested in the child's perspective as part of understanding their potential for learning through family interactions; we focussed on interactions with fathers within the family. However, the children were very young and this posed a methodological problem. In the paper we explain our use of the principle of double stimulation to analyse our use of video, in order to identify the value of this principle when applied to video methodology and, in particular, in gathering the child' perspective. Towards the end of the paper we reflect on what we can learn about transformative agency from our analysis.

Educational researchers frequently use video in data collection with children (see for example Clarke 2005, 2007; Thompson 2008), primarily because of its participatory potential (Pink 2013). Fleer and Ridgeway (2014) demonstrated how it is also possible to study child development through video from a cultural-historical perspective. From this perspective, video-based research helps in examining the social basis of the development process. This is because it enables researchers to examine how the social becomes the individual through

extracting conditions associated with the person-society dialectic. Sannino's contemporary interpretation of double stimulation (Sannino 2015; Sannino & Laitinen 2015) sees it as a source of volition occurring through a dialectic process. In this respect, it has connections with the way we used video. Our methodology used video to extract examples of dialectic conditions for analysing young children's motives (as part of identifying their opportunities for development). In this paper we examine how using video in its extractive modality, combined with double stimulation, sheds light on these development processes.

We also used video for reflection, to gather young children's interpretations when they were tasked with commenting on the video extracts. Commenting on video extracts (stimulated recall) in research is nothing new in itself. However, when analysed through the lens of double stimulation, this modality raises questions about the affective and cognitive consequences of 'the mirror effect' on young children. This might be because using video for reflection is both reflexive and dialectic (Pink 2013; Haw and Hadfield 2011), and we discuss this later in the paper.

In summary, in the paper we use double stimulation to analyse how we used video. By combining video and double stimulation we explain how we addressed the methodological problems of securing the young child's perspective when studying pedagogic relationships in family interactions.

The paper divides into five parts. Part one provides a background to the study, critically discussing the function of video methods in social science research and tracing the emergence of research using video with young children. Part two outlines the theoretical framework and how double stimulation and conflict of motives are relevant to our analysis of video modalities.

In part three we outline our methodology, why we used video instead of observation, and how we used the modalities of extraction and reflection. The vignettes from our study in part four demonstrate our analysis of video through identifying the first stimulus, second stimulus, conflict of motives, and transformative agency through double stimulation. The paper concludes by proposing the value of double stimulation for literature concerning video modalities, how we see transformative agency in the study, and practical implications for social science researchers interested in using video to research young children's motives.

Background

Using video in social science research is well documented (Prosser 1992, 1998; Banks 2007; Niesyto et al. 2001; Pink 2013; Rose 2008),but using video with young children to examine pedagogic relations from the child's perspective is rare. Family environments remain the largest determinant of a child's learning (Meluish 2010; OECD 2016; Goodall 2017),and correlate with later educational outcomes (Flouri 2005). We were interested in father-child relationships (Flouri 2005; Flouri and Buchanan 2004). We believed methodological difficulties underpinned the paucity of research into this area, particularly the child's perspective. In the paper we demonstrate how analysing video through a contemporary strand of double stimulation (see Sannino 2015; Sannino and Laitinen 2015) helped us to secure their perspectives.

Video modalities in social science research

Video as a mode of data collection can be classified in five modalities used by researchers in projects: extraction, reflection, provocation, participation and voice (Haw and Hadfield 2011).

Video as extraction, reflection, provocation, participation and voice

In an extractive modality, video captures representation of phenomena. The representations (video artefacts) are either created by the researchers themselves or by participants in the study.

Critics of this modality argue it is used to make assertions about the intentions and perspectives of the participants, when it actually only contains data about 'visible' behaviours (Wagner 2006). Reflection is a way of using video to present 'objective' images of the participant back to themselves, either self-generated or by others, who hold the mirror up to the observer for a response. Using video as provocation is an extension of a stimulus for reflection. It provides a more critical approach to challenge ideological perspectives (Haw and Hadfield 2011). Typically, researchers use video extracts to provoke participants to critically examine and challenge existing norms, traditions, and power structures. The seminal 'Pre-School in Three Cultures Study' (Tobin et al 2009) is an example. Tobin et al (2009) used video extracts from pre-school pedagogy in China, Japan and the United States, as cues to stimulate reaction and reflection from teachers, administrators and early childhood education experts about each other's practice.

Perhaps the most common aim for childhood researchers using video is for children's participation, articulation and voice (Clark 2005, Clarke and Moss 2011; Thompson 2008; Lipponen et al 2016). In these modalities, researchers support members of society (for example, children) who may not be recognised or heard to articulate their voices in order to achieve broader social changes. Theoretical traditions about children's rights and the sociology of childhood underpin its use here (Quortrup 1994; Christensen and James 2008). Photovoice used with children is an early example using photographs and words to empower silent voices, in order to influence policies and programs (see Wang and Burrus 1994). The method has been adapted to different settings and populations, and used in conjunction with collaging, drawing, and mapping in participatory studies. In early childhood, it is apparent in the 'Mosaic Approach', a multi-method research design in which children's own photographs, tours and maps are combined with talking and observing to gain an understanding of 'voice' (Clarke and

Moss 2011; Thompson 2008). In this respect, there is a sociological argument that the camera or video is a tool to 'hear' the silent voice of the child (Clark 2005, 2007; Clark and Moss 2011; Cook and Hess 2007) and, in doing so, respond to Article 12 of the United Nations Convention on Human Rights (1989). However, photography does not provide instant access to a child's perspective:

> … we need to understand how research itself establishes positions from which it becomes possible for participants to "speak"' (Buckingham 2009, 635).

Indeed, uncritically accepting researchers' claims as a neutral vehicle to access children's perspectives (Buckingham 2009) is a key criticism of using video for participation and voice. In fact, critics go as far as saying:

> …those interested in video as a way of negotiating issues of empowerment, enablement and emancipation are constructed as a novelty act, the three 'Es' who lack an in-depth understanding of research and tend to conflate it with creative, political and therapeutic processes (Haw and Hadfield 2011, 2).

Socio-cultural researchers Lipponen et al (2016) recently extended this criticism from their theoretical perspective, arguing it is too simple to say that photos mediate children's experiences and offer a window to understanding their perspectives. Using the notion of working with the visual as a 'reified' artefact (Wenger 1998), they claimed that reified experiences can mediate experiences and have very different functions depending on how they are produced, consumed and preserved. Lipponen et al (2016) are therefore also concerned with the danger of viewing the visual as a neutral vehicle for arriving at the child's voice.

And when referring to voice, we are essentially concerned with the extent to which a child is given the opportunity to define their own perspective. But to what extent can children's views be adequately expressed though talk alone? Behaviour, clothes, music, apathy, loyalty and silence are all indications of voice (ibid). Central to the video work of cultural-historical researchers Fleer (2014/2014a) and Hedegaard and Fleer (2008) is the notion of 'motive'. They examine learning and child development dialectically from the child's motive, where video captures the dialectic conditions of the child's social situation (Vygotsky 1998a/1998b) and, in turn, the child's perspective. In this study we used the modalities of extraction and reflection to secure children's motives as a perspective.

Theoretical framework

Double stimulation, conflict of motives and transformational agency

One traditional interpretation of double stimulation sees it as a Vygotskian methodology demonstrated through the classic waiting experiment (Sannino & Laitinen 2015; see also Sannino, this issue), in which a clock serves as a second stimulus. Two types of stimuli, that is, the task (to wait in a room) and the clock, serve the purpose of objectifying inner psychological processes to trace the development of higher mental functions; effectively the clock functions as a second stimulus to explicate the subject's higher mental functions represented through their decision-making process.

Having repeated Vygotsky's experiment, Sannino and Laitinen (2015) argue the 'waiting experiment' is not just a method to explicate higher mental functions, but demonstrates a principle of volition. Participants in their study made decisions based on their 'life activity', not just the clock, demonstrating the potential for human agents to volitionally shift their subject position within the discursive field initially defined by the first stimulus

(Thorne 2015, 64). Sannino (2015) maintains existing discussions about the two stimuli fail to consider the conflict of motives, and that this is important because it is precisely what propels volitional action; a higher mental function that often precedes others. She therefore argues double stimulation contains conflictual aspects in which:

> Conflict of motives denotes a clash between opposite aspirations or tendencies which occur in situations involving uncertainty about the situation …requiring the courage of deliberate choice (Sannino 2015, 8).

The waiting experiment is therefore based on the idea that there is a conflict between the motives of staying in the room - because of 'obedience, following rules, behaving in accepted ways, and feeling commitment due to contractual obligation' (Thorne 2015, 63) - and leaving the room, when the expected script does not happen. Most importantly:

> The power of the …experiment is that this conflict of motives evokes complex behaviours and forms of decision making, which in turn shed light on the human condition in the areas of intentionality and agency (Thorne 2015, 15)

By creating innovative second stimuli, such as measuring time or linked to their life activities (in the repeated experiment), participants created support for new courses of action, such as deciding 'I'm going to leave at a particular time'. This indicates how participants can transform a situation, influencing both themselves and their circumstances.

Hopwood and Gottschalk (2017) also refer to conflict of motives as enabling volitional action:

> For example…alarm clocks can assist the tired person to get out of bed. …knots, counting and clocks are culturally available artefacts used to gain control i.e. to accomplish volitional action. Sannino (2015) refers in such situations to the

> ‘principle’ of double stimulation: the way in which human behaviour is regulated, with specific connection to volition as a characteristic of higher mental function.
>
> (Hopwood and Gottschalk 2017, 23)

Hopwood and Gottschalk (2017) were interested in the potential of double simulation in professional practices supporting parenting (see also Hopwood and Gottschalk, this issue). The researchers used double stimulation to historically trace changes that develop in parenting through parental interactions with professionals. They add that the volition here is ‘…the way out of conflicted situations…through an auxiliary or second stimulus used to direct or take control of one's actions’ (Hopwood and Gottschalk 2017, 25) in which the second stimulus assists by, for example, …helping to organize behaviour, to objectify and render visible relevant information, to support remembering, and to enable a participant or a group to conceptually reinterpret a situation in a new and potentially expansive way” (Thorne 2015, 63; cited in Hopwood and Gottschalk 2017, 25). For Sannino (2015), double stimulation equates with volitional action, because conflicting motives direct a person to act; it is even generative or expansive when it leads to novel solutions, actions, and concepts (Engeström 2007). This is a powerful argument because, if conflicting motives promote how we interpret circumstances, reframe a problem, make decisions, and act on those decisions (Rajala, Martin, & Kumpulainen, 2016; cited in Hopwood and Gottschalk 2017, 25), those actions can transform our circumstances.

Conflict of motives and the child’s perspective

Conflict of motives is central to the cultural-historical framework we adopted to look at the child’s motive when studying learning and development within family interactions. From this

perspective, a conflict of motives is evidenced by a clash in interactions, through which the child experiences dialectical opposition in relation to their social and material conditions. Hedegaard's (2008) framework for learning and development uses this dialectical idea, drawing on the Vygotskian (1998a) concept of the child's social situation of development. This is a term used to conceptualise the environment of which a child is a part, and includes both its social and material conditions alongside the child's 'predicament' (Blunden 2008) as s/he enters a situation. In moments of crisis within a particular social situation 'the child can become relatively difficult due to the fact that …the pedagogical system applied to the child does not keep up with the rapid changes in their personality' (Vygotsky 1998a,193-194). In other words, there is a clash between the personal and the social (a crisis point between what they want, and what they see is demanded of them); it is through interaction with others (in our study it is children's interactions with their fathers), that they begin to envisage things in a new way (Thompson and Tawell 2017). This is a dialectic mechanism. Looking at conditions dialectically makes it possible to explicate a child's motive as their perspective.

Methodology

The research team studied a total of thirteen families in four countries: England (4), Hong Kong (3), Norway (3) and India (3). The families were heterosexual and middle class, living in the same household with at least two siblings, the youngest being a pre-school child of approximately 4 years old; the oldest had started school and was aged between 5-7 years. Initially the youngest child was the focus. However, the unit of analysis was activity settings (regular scenes) created through father and child interaction. Therefore, in the final event, we focused on one or both children, depending on the activity settings participants filmed.

We selected middle class fathers because middle class employment can generally accommodate fathers' parenting roles (Williams 2008), because they are given more control over their hours of work (Kossek and Lautsch 2017).

Data collection

Data sets for the study included:

1. Participant footage[1]. Participants themselves (children or with their parents) chose and recorded up to ten regular activities of father-child interactions over two weeks.[2]
2. Film elicitation interviews with children/fathers.
3. Film recordings of film elicitation interviews (researcher footage).
4. Semi-structured interviews with fathers.

Overall, we collected between 5-10 hours of combined participant- and researcher-generated video film footage for each family.

Data analysis

Our visual methodology used two modalities, extraction and reflection. An extractive modality allowed us to extract the different aspects of the child's social situation in order to explicate their motive and opportunities for development occurring through the interactions Fleer (2014) states:

> Video observations can capture the complexity of the dynamics that surround the material conditions and social expectations that make up the cultural nature of the child's development (Fleer 2014, 18)

[1] We make a distinction between footage and data; i.e. through our collaborative film elicitation interviews with children, we are able to identify data from footage (c.f. Erikson 2011).
[2] To introduce the filming task, we conducted a children's filmmaking training session with the children in each family and provided them with a set of filmmaking equipment.

Traditional views of development dominate standard child observation approaches. In these perspectives, progression is captured as linear and linked to maturational development norms that exclude the socio-cultural context (Veresov 2014). Using video to capture a child's social situation of development was particularly important for us because it enabled us to capture each child's unique context of interaction, which would give us an indication of their opportunities for development…

> … through investigations of the qualities of social situations of development they contain. By 'the quality of social situation of development' I mean its developmental potential, i.e. a unique combination of developmental conditions and cultural tools the social situation contains. As such, socio-cultural environments become objects under study not because they influence development but because they contain social situations of development as initial stages of processes of development (Veresov 2014, 2019- 220).

There were also pragmatic reasons for using video rather than observation. First, it captures a detailed representation of an observable phenomena, which, as an international team, we then viewed in our own contexts after the field work period. Second, it was possible to repeatedly analyse the footage in detail with scholars from varied international contexts, because video is open to more detailed analysis compared to direct observation. Finally, it was possible to look at detail; not only patterns of social interaction but the nuances of facial expressions.

The participants themselves created representations of father-child interactions. First, children chose situations in everyday family life in which they interacted with their father. We called these activity settings (Hedegaard 2008). Children then recorded (sometimes with their parents)

those situations. Second, we theoretically sampled the footage for the child's social situation of development by extracting 'conflict' episodes within activity settings. In other words, the child's behaviour suggested a moment of 'crisis' (c.f Vygotsky 1998a) in which a possible contradiction existed between a) the child's motive and b) how the child interpreted the father's motive in the activity setting. Through this dialectic framework we aimed to identify and analyse the social and material conditions propelling the child's motive and the potential for development. We also sampled footage by extracting episodes of emotionally charged behaviour because we assume children can express conflict both through linguistic and non-linguistic ways. In this respect:

> The emotionality of the data can give clues and direction for how the data is to be worked and what might be noteworthy…Emotionality captured as a system of exchanges is made possible through video observation and analysis… (Fleer 2014a, 27)

As researchers we analysed these extracts of dialectical situations for key elements of the child's social situation, and their associated motive and opportunity for development. We then used the extracts of conflicts for reflection with the children.

We used video in its reflective modality to take account of its reflexive quality (Pink 2013), one that forms a connection between the observer and the subject of the image; a connection that turns back on the observer and affects how they see what they see, and their interpretation.

> As the observer views an image, how they perceive it changes, because of shifts in perspective `both physical and cognitive, directly brought about by the act of observation (Haw and Hatfield 2011, 50)

The sensitive downside to what we consider to be an exercise in 'making the unconscious, conscious' is that the participants might not wish to expose themselves (Haw and Hadfield 2011, 73).

Figure 1 illustrates how we used the two video modalities in the study.

[Figure 1 near here]

Ethics

The lead university researcher obtained ethics approval for the project through her own university systems, from overseas collaborating institutions linked to the study, from parents and children, and also followed the British Educational Research Association guidelines[3].

Findings

The following case study examples use double stimulation to analyse data from the two video modalities.

Using video for extraction

Case study example 1: Norway - Mr and Mrs Simonson: Activity setting - Playing games (cards)

> It is a weekend in early November at home. There are two children in the family, Rhoda (aged 6) and Rhandi (aged 4). Rhoda and her father decide to play a game of cards whilst sitting at a small table opposite each other in the living room. Together they create the activity setting of playing games. The mother records the setting by locating a camera on a tripod in the corner of the room; Rhandi, the

[3] Although general ethical issues are not discussed here, the research team debated whether to blur the children's faces for this paper. In the end, emailed conversations with parents solved the dilemma. They granted permission to show faces in this article because the data is not sensitive.

younger sister, plays on her own but on one occasion steps into the card game to take a card, for which she is rebuffed by her sister. Rhoda and her father speak in Norwegian, but the visual interpretation of the video extract allows some understanding of the social situation before translation occurs.

At the beginning of the game Father holds his deck of cards and Rhoda's lie on the table next to her. A remaining pile of cards sits in the centre of the table, alongside Father's cup of coffee and a small pile of biscuits that Rhoda eats, in between taking her turns.

In the conflict episode, father puts down a card from his deck into the pile in the centre. Rhoda looks at it and comments; father responds, to which Rhoda raises her voice in disagreement, then picks up the card her father has just placed into the centre and swiftly hands it back to him. Father takes the card from her, points to the existing card that sits on top of the pile in the centre and returns his card on top of this, whilst giving an explanation. At this point Rhoda raises her hands and voice and slaps one hand on the table, all gestures which demonstrate strong disagreement with her father in this game of cards.

In response, her father laughs and continues to explain. She picks up a card from the centre, hands it to him, and places the last of her own cards into the centre. The conflict seems to have been resolved. She puts her elbows on the table, hands wrapped around her chin and cheeks, and smiles at her father, looking as if she is listening to him as he continues to explain and collect the cards together to signify the end of the game (Video film observation notes: extracted child-participant data; Norway Family1).

[Figure 2 here]

In the above video extract, Rhoda is in a situation where she is playing a game of cards with her father (stimulus 1) and her father is playing by rules (stimulus 2). As a result, her motives become conflicted. On the one hand she wants to play and, on the other hand, it is difficult for her to win by the rules. Rhoda decides that, in order to win, she will change the rules (the second stimulus becoming the auxiliary). She then uses this decision to transform the conditions of the game, in that she has a game strategy (to change the rules to her advantage). Her father notices the strategy and prevents her from succeeding. Through his response to the way she plays the game (he creates conditions showing obstacles), we can extrapolate a contradiction between what she wants and what she sees is demanded of her in this interaction. We can trace and make visible not only her motive but, seen through the lens of double stimulation, the conflict of motives that resulted in her decision and behaviour. We can also discern a higher mental function (developing strategic advantage) and associated opportunity for development afforded through this interaction. In this respect, video combined with analysis of double stimulation has allowed us '…not only to visualise the process of how the social becomes the individual but to analyse this process in all its dialectical complexity' (Veresov 2014, 224). That is, we can identify the features of Rhoda's social situation but also have an indication of her higher mental functions, made visible through how she attempted (albeit unsuccessfully) to transform the conditions of the situation.

Later in interview, Rhoda's father explained how he saw his daughter's motive emerging:

> Rhoda: Daddy put two cards, but it's not allowed…
>
> Father: the game…has a set of rules, sometimes she, she makes her own rules…And she makes rules that will fit her, so she can win….I tried to explain her that uh, that it wasn't all right to, to decide rules into the game,

> the rules were set before we started the game… you cannot change that. (Elicitation interview Father and child: Norway, family 1)

The above example demonstrated the child's motive in a dyadic father-child interaction. In the following video extract, the analysis occurred in a more complex triadic father-child interaction with siblings and a father, within a family in Mumbai, India.

Case study example 2: India – Mr and Mrs Sharma: Activity setting playing games (board games)

> It is a weekday in mid-December at home. There are two children in the family, Pushpa (aged five and a half) and Sonia (aged two and a half). They decide to play games (chess and coloured cubes) with their father whilst sitting on the bed in their parents' bedroom. Together they create the activity setting of playing games. The mother records the setting by locating a camera on a tripod in the corner of the room.

The situation begins with father approaching the bed whilst Pushpa is placing chess pieces on her chess board. He tells her where pieces should be placed, every so often asking her to pass him different pieces so that he can place them on the board. He alternates in giving the two sisters attention. He asks Sonia to count her cubes:

> F: You will teach me how to count. Count all these here (points to cubes). And tell me how many are there here? teach me One, two, three...
>
> Sonia: NO. Colour
>
> F: Colours? Okay tell me all the colours and count them too.
>
> Sonia: White

F: See…(points to cubes) One, two, three,

Sonia: White

F: Four, five (points to cubes)

Sonia: Blue

F: (pointing to cubes) Six, seven, eight, nine, ten .....now, you will count these. Count them

Sonia: Blue

(Scene 1 translation Hindi-English: F2 Mumbai-India: Extracted child/participant video data: playing games)

In Scene 1, Sonia is in a situation where she is playing a cube game with her father (stimulus 1) and she knows she is expected to play it the way her father says ("count them") (stimulus 2). Sonia's initial response is simply to say 'NO', but this is ineffective. The father continues telling her to count the cubes. This presents a conflict of motives for Sonia. On the one hand she wants to play the cube game with her father but this would involve 'counting', which she does not want to do; she wants to name the colours. Sonia decides to take the 2nd stimulus 'what father wants: to count' and deliberately answers his counting questions with responses about colours. It is a strategy of non-compliance and it is highly likely that this is her motive, since it is evident she has understood his questions when we trace back to the beginning of the session (extract 1). Sonia's strategy of non-compliance starts to transform how they will interact with the cubes, because it prompts her older sister to intervene in Scene 2:

Pushpa (looking at father): Idea, Sonia will tell like this.

F: You were playing chess? (said rhetorically). This game (referring to the cubes) is for younger children. You are older.

Pushpa: Look …like this (looks at father). See explain to Sonia like this (Pushpa makes small piles of cubes of different colours on the bed and asks her younger sister to point to the colours Pushpa names).

F: Okay (watches Pushpa's demonstration to Sonia)

Pushpa: Which colour is this? Tell different colours. Teach Sonia like this.

F: Okay; fine you teach this to Sonia

Pushpa: Sonia, tell different colours. Like, look here…. Which colour is this? ….

Sonia: White

Pushpa: Very good (applauds). She told this one is white. Now this. What's this?

Sonia: Green

Pushpa: No. This one is green. Which colour is this?

(Scene 2 translation Hindi-English: F2 Mumbai-India: Extracted child/participant video data: playing games)

In Scene 2 Pushpa intervenes by taking the second stimulus (the way father wants to play) and turning it into an auxiliary stimulus aligned with Pushpa's motive: she wants to show father how her sister will respond better. Accordingly, Pushpa reframes the situation by suggesting new ways to interact with the cubes, so that her younger sister listens to him.

In Scene 3 (below) we see that father intervenes to develop Pushpa's ideas. What is interesting is that the father is willing to take on board the new ways of interacting with the cubes:

F: No. Not like this. Let's do this. These many colours are confusing her. We will teach her two colours at a time. Okay? …

…

F: Now, you will tell, which one is blue?

Sonia: This is blue (and points)

F: Very good (applauds). … Now look. This is red colour (introduces a new colour)

Sonia: Red (and points to the red cube)

…

F: Wow! …Tell me… Is there red around here somewhere? Look

Pushpa: Look there (older sibling points to the opposite wall), red colour

F: Look, look at this flower. This one is red (father points to the poppy on the pillow case)

[Figure 3 near here]

By the end of the game they are all interacting with the cubes by naming colours and referring to the wider environment of colours too. In this activity setting, 'how to play the cube game' was transformed through a 'collective' ability. Waermo (2016) refers to a collective ability for transforming the object of a play activity as 'negotiagency', where 'negotiagency is collectively produced and emerges due to dynamic tensions (p.25). In the example above, the activity setting of 'playing cubes' is created through the interaction between the two sisters and father, but the play becomes transformed so that the younger child's original motive (naming colours)

is met. Double stimulation, combined with video extraction, enabled us to unravel the opportunities for learning as they developed through this complex interaction. The analysis also highlighted the part sibling alliance may play in institutional power relations. Video and double stimulation allowed us to historically trace the emergence of play and how the sisters' collective strategy (of non-compliance and reframing the situation) transformed how the father interacted with his daughters during the cube game.

Using video for reflection

Case Study example 3: Hong Kong - Mr and Mrs Lam: Activity setting, playing games (tennis)

Mr and Mrs Lam in Hong Kong have two children, Anna (aged 7) and Alex (aged 5). Alex is an active child, who likes to move about rather than sit still. In the following illustration, Alex is watching an extract of an activity setting created through a game of tennis between Alex and his father. His father is a qualified tennis coach who plays regularly, sometimes coaching his son:

> Alex is sitting with his elder sister Anna, watching the activity setting 'Playing Tennis'. We are in one of his father's teashops. The children are sitting at a table in front of the laptop computer. The researcher from England and a Cantonese speaking Hong Kong translator (CC), sit beside them. We watch and stop the footage at certain points, to ask questions to find out what is going on, in order to understand Alex's social situation [of development]. We record the responses and interactions on a digital camera, which is set up in the corner of the shop on a tripod (Video film observation notes: Researcher footage – elicitation interview: HK Family 1).

The problem of developing attention

At the outset, it seemed that Alex did not want to give the extract his attention. He was more interested in playing with the computer equipment. This was evident in his protest, recorded in the researcher footage:

[**Figure 4 near here]**

In this scene the research team is expecting Alex to join them to watch the video extract (stimulus 1) but Alex does not want to give it his attention (second stimulus). The conflict of motives associated with this was that, on the one hand, Alex knew what he was expected to do but, on the other hand, he wanted to play with the equipment. After reprimands from his parents, we see that he decides to force himself and gives the video his attention. Here is the first sign of his volition as he decides to behave as expected. However, through the act of observing himself in the video he becomes excited (an affective response) and this accompanies 'sustained attention', demonstrated as he starts to verbally articulate (actions that attention regulates).

[Figure 5 near here]

Not only does Alex express himself linguistically, but through gesture. For example, as he watches the video, he provides a physical demonstration of how he often shuts his eyes whilst holding up his arms to hit the ball because, as he says, 'I was a bit afraid…'

[Figure 6 near here]

As Alex gives the extract more attention, his interpretation of the interaction with his father transforms. For example, he tells us about how they make decisions together, how he tries to catch his dad out, and he talks about what he is watching beyond the literal by referring to the past. Whilst giving attention was accompanied, and probably mediated, by the relationship with the translator, evident in their smiles and whispered exchanges, we maintain it is the video

itself being turned into an auxiliary stimulus which sustains his attention and consequently transforms how he interprets watching himself with his father. This is both a dialectical and a reflexive process. The dialectic occurred in the initial conflict of motives, when Alex wanted to play but knew he was expected to watch the video (agreed at the outset of the research project); so he effectively forced himself to watch it. However, through the image content being turned back to focus on Alex, there was an affective and cognitive consequence, drawing in his attention, so that his interpretation was transformed in a far more informative way for the researcher.

However, there were two families in which using video for reflection highlighted a negative affective response, raising questions about how the video as an auxiliary stimulus can also limit the possibility of interpretation. The following example demonstrates this concern:

Case Study example 4: England - Mr and Mrs Barker: Activity setting, mealtimes

The example below is taken from researcher footage. It was a recording of a video extract being played back to Bea, the youngest member (4 years old) of a family in England. The extract was of the family eating supper, during which father teased his youngest child, Bea, and she became cross:

> R: So Bea, why did you get cross? Can you tell me why you got cross? [Bea doesn't say anything but watches the video with us]
>
> F: I think Bea wanted to say something, or she wanted, and we were saying you can't.... she wanted to ask a question I think, and then we say, you can't ask a question until you have eaten some of your tea [supper]

R: I know that Bell (elder sibling) said um, ‘Daddy’s joking with you’

Bell [Eldest sibling]: You always say, ‘Are you joking with me?’, don’t you Bea

Bea: [Silently shakes head in disagreement]

Bell: Yes you do...Yes, she wanted to know if Dad had actually had Maltesers [for lunch], and Mummy would only tell her if she ate. Ah Bea… [Bea’s expression changes, she is about to cry, as she stares at the extract of herself being played back on the screen].

R: What’s the matter sweetheart?

F: Ah Bea don’t get upset darling, ah gosh...

Bell: Ah, no....

F: Give me a cuddle.

R: [whispers to F] Why is she upset?

F: I guess she’s not used to seeing things played back

M: Yes, tell R. about the Bea book

F: Oh yes.

Bell: That has things... that might just make Bea more upset, because that has things, like silly things that Bea has said...because sometimes, uh, she thinks that we’re laughing at her, so she got upset...

(Family 1 England: Corbett Family; Researcher footage – Film elicitation interview 1)

In the above scene, Bea began the interview eagerly watching the video extract with us (stimulus 1), ready to talk about it (stimulus 2). There was no uncertainty in the situation. However, as she began to watch it, the researcher could see her facial expression indicating a sense of uncertainty. The associated conflict of motive was that she was watching the video knowing she was expected to talk about it, but on the other hand it was affecting how she felt. She decided not to talk. Responding through reflection therefore becomes changed by the very act of watching the film, and this can transform how young children interpret the footage for the researcher with both positive and negative outcomes. This is because video used for reflection has both affective and cognitive consequences.

Discussion and conclusion

We began the paper with the question 'How can we use video with young children to explicate how fathers engage in child development, from the child's perspective?' As researchers we were interested in the child's perspective, as part of understanding their potential for development through family interactions, with a focus on father-child interactions. However, the children were very young and this posed a methodological problem. This paper has used double stimulation to analyse our two uses of video, in order to identify the value of this principle for analysis, in particular in explicating the young child's motive as their perspective. Accordingly, we worked with two video modalities: extraction and reflection. In the analysis of both modalities we were concerned with identifying the first stimulus, second stimulus, and manifestations of transformative agency. By identifying these three elements in both modalities, we maintain that video has shown to be an effective auxiliary stimulus to addressing the problem of the young child's perspective.

The value of double stimulation to using video

In capturing the elements of the child's social situation of development through the extractive modality, we were able to historically trace the conflict of motives, previously hidden from visibility, through which the child's volition and decision making occurs. In this respect, combining double stimulation with video in the extractive modality helped us (as researchers) to ask the kinds of questions that can make the non-visible visible. In doing so, they indicated the child's opportunities for development or put, another way, 'microgenetic moments' that generate the kind of "qualitative transformation" (Vygotsky 1978, 73) enabling development to be seen in a new way.

Using video in a reflection modality showed it to be an auxiliary stimulus propelling children's volitional actions when they had difficulties with giving and sustaining attention (Leont'ev 1932/1994; Vygotsky 1929/1979). We found that as young children observed their video extracts, there was often a dialectic between what they expected to feel, what they actually felt, and what they saw and heard from their siblings watching the footage with them. All of this set the stage for conflict of motives, which helped the young children form decisions about responding. Additionally, in watching the footage, their perspectives changed and, in turn, their interpretation, because of the affective and cognitive consequences directly brought about through observing themselves in the video. In this respect the video functioned as a second stimulus/auxiliary stimulus helping them to make decisions about how to interpret what they were watching.

Combining double stimulation with video for reflection addressed the main criticism of video use with children, i.e. that there is a danger of viewing the visual as a neutral vehicle for arriving at the child's voice. Combining the two enabled us to trace outward behaviour back to the child's conflict of motives and therefore how they decided to behave; the second stimulus, in becoming the auxiliary stimulus for volitional action, in turn revealed their motive.

Double stimulation and transformational agency

The case illustrations in this paper demonstrate how using video in both modalities and combining it with double stimulation allowed us to see transformative agency at work. In this respect, transformative agency was usually implicated in the extractive modality and sometimes enabled in the reflective modality. In its extractive modality, double stimulation helped us to see transformative agency as part of a child's opportunities for development through interactions with their fathers, but also within institutional family dynamics that give rise to collective mechanisms and associated conflicts of motives, transforming how interactions occur. Béhague et al. (2008), for example, draw our attention to institutional power hierarchies and social dynamics which sustain passivity and, at the same time, demonstrate opportunities for transformation. Pivotal to this are the crises or 'conflicts' acting as sources of transformative agency, creating the possibilities for structural change. Such studies may rarely make explicit 'how' transformative agency actually emerges (Sannino 2015a), but when they are conceptualised though the lens of double stimulation (as in the case example of the family in India), we start to see how volitional actions involve searching for new possibilities, starting with individual initiatives, and expand toward collective endeavours (Sannino 2015, 1). Using video in a reflection modality usually helped to enable transformative agency so that, as researchers, we were more informed through the children's interpretations. Of course, this was not always the case, and we are mindful of the fact that video can have negative affective and cognitive consequences for young children's ability to transform the quality of their interpretations. Both modalities however, when analysed through the lens of double stimulation, help researchers understand the child's motive and, in the extractive mode, the opportunities for development occurring through interactions.

Implications

Within our research community, video not only has an ambiguous status, but there remains a lack of understanding about its potential (Hall and Hadfield 2011). In our study, using double stimulation to analyse our use of video modalities enabled us to widen the theoretical scope for understanding its potential, particularly for studies researching young children's motives in pedagogic relationships.

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Image/ Clip time **Image 4.1f Alex, the extract and emotional dialogue (iv)** Clip 7 : 10: 25 -10:30	**Verbal transcript**
	Ch. Alex (via translator) Oh…. I close my eyes and I hit the ball and then I open my eyes again and look back R.: Oh is that what he did just now? Ch. Alex (via translator): Yes; I always do this R.: Why is that? Ch. Alex (via translator): Oh!. because the ball almost hit me….I was a bit afraid…. …
Non-verbal conduct – observation transcript	
Demonstrates visually with hands clasped above his head as he shows how he hits the ball with his eyes closed And then whispers what he did into the translator's ear. Demonstrates how the ball was coming in his direction	
Figure 6: Family 1 - Hong Kong; Researcher generated footage: Playing tennis	

Image/ Clip time **Alex, the extract and emotional dialogue** Clip 6-7: 04.46- 10.30	**Verbal transcript**
  	R.: So tell me Alex, what's going on? Ch. Alex (via translator) …Oooh! I hit the ball so it's going er er diagonally and so Daddy almost couldn't catch the ball. …R.: What's happening there? Child Alex: Green! (responds in English) R.: Green. So do you use different coloured balls (there are other coloured balls visible in the extract we are watching) … Ch (nods) And how do you decide which ones to use? Ch. Alex (via translator) Oh…daddy and I decide together
Non-verbal conduct – observation transcript	
Alex watches the footage, talks and using his hands to express Alex speaks very loudly and quickly as he watches this footage informing us about what was going on, as we all watch He whispers in CC's ear and then in the researcher's ear, so that dad does not hear him say that he was trying to catch him out in the game. **Figure 5: Family 1 Hong Kong: Researcher video footage – playing tennis**	

Figure 3: Family 1 Mumbai-India

Participant footage – Playing cubes

Image/clip time	**Non-verbal –observation transcript**
Image 4.1a Alex's attention Clip 1 : 00:00 - 1:31 	In the foreground, Anna (the elder sibling) watches the participant footage and talks about what she sees. Anna speaks in English for much of the time, and is therefore able to speak directly to the researcher from England. In the background - Alex is trying to set up equipment and look at us through a camera with tripod; his father tries to stop him from fiddling with the equipment and Alex starts to shout; at which point his father lets go and mother steps in. …In the background a protest arises once again over the equipment.

Figure 4: Family 1 Hong Kong: Researcher video footage – playing tennis

Figure 1: Using video modalities of extraction and reflection: securing young children's perspectives

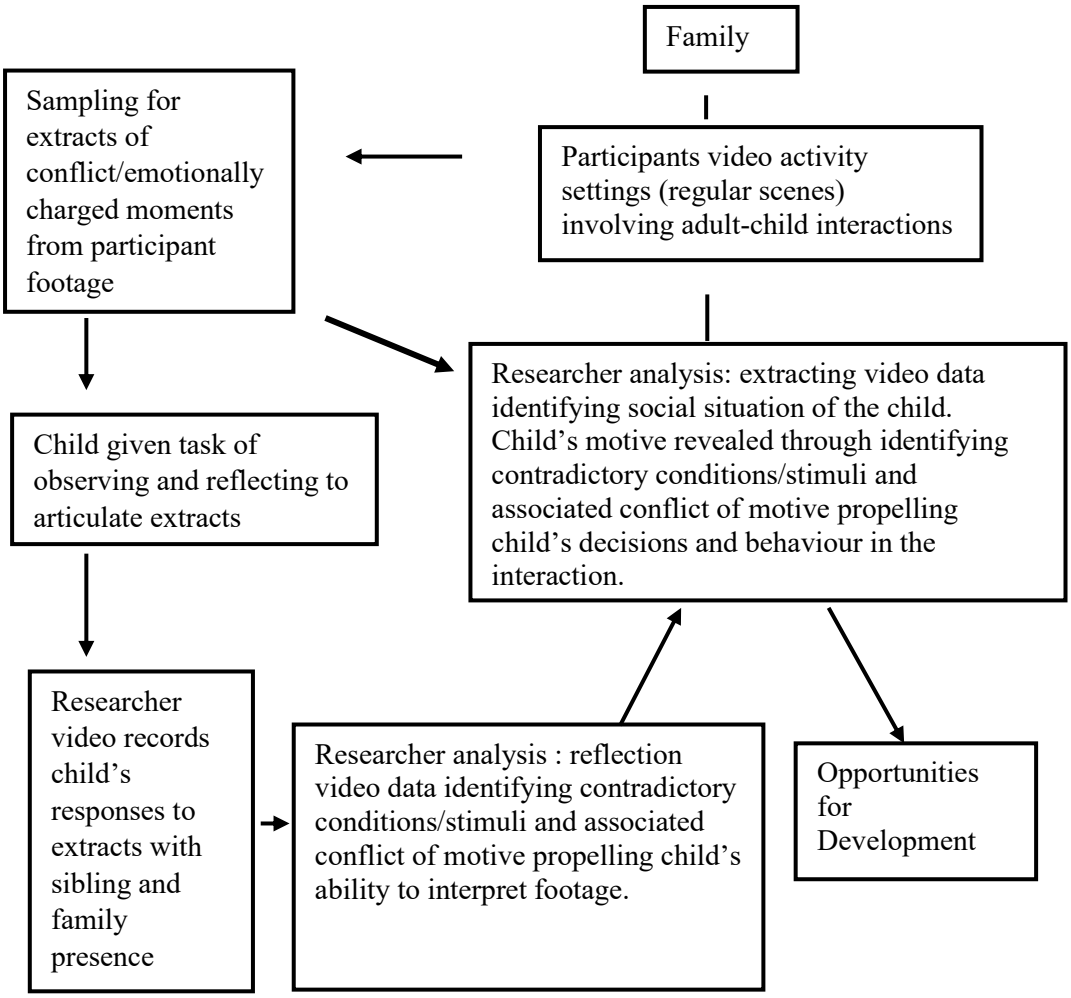

Figure 2: Family 1 Norway

Participant footage : Playing cards